ST-A35L

AEP Model
UK Model

FM STEREO/FM-AM TUNER

SPECIFICATIONS

GENERAL

System: FM stereo, FM/AM superheterodyne tuner
Acute Servo Lock system

Power Requirements: 220 V ac ~, 50/60 Hz (AEP model)
240 V ac ~, 50/60 Hz (UK model)

Power Consumption: 10 W

Dimensions: Approx. 430 (w) x 80 (h) x 345 (d) mm
17 (w) x 3 ¼ (h) x 13 ⅝ (d) inches
including projecting parts and controls

Weight: Approx. 4.1 kg, 9 lb 1 oz (net)
Approx. 5.2 kg, 11 lb 7 oz (in shipping carton)

FM TUNER SECTION

Tuning Range: 87.5–108 MHz

Antenna Terminals: 300 Ω balanced
75 Ω unbalanced

Intermediate Frequency: 10.7 MHz

Sensitivity at 46dB Quieting: 4 μV, 17.3 dBf (mono)
(40kHz deviation) 43 μV, 37.9 dBf (stereo)

Usable Sensitivity: 1.4 μV, S/N = 26 dB (40kHz deviation)
1.9 μV, 10.8 dBf; IHF

Limiting Threshold: 1 μV (–3 dB)

S/N Ratio: 77 dB (mono)
(40kHz deviation) 72 dB (stereo)

Harmonic Distortion: at 100 Hz
0.1 % (mono)
0.2 % (stereo)
at 1 kHz
0.1 % (mono)
0.2 % (stereo)
at 10 kHz
0.1 % (mono)
0.5 % (stereo)

IM Distortion: 0.1 % (mono)
(40kHz deviation) 0.2 % (stereo)

Separation: 45 dB at 100 Hz
50 dB at 1 kHz
40 dB at 10 kHz

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

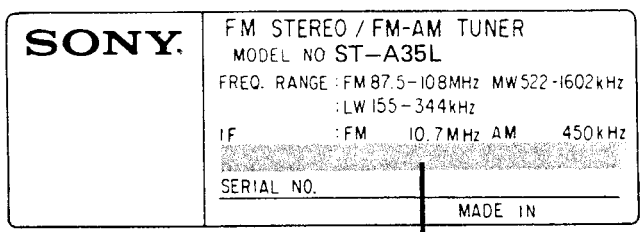
SONY®
SERVICE MANUAL

Frequency Response:	40 Hz – 12.5 kHz ± 0.3 dB 30 Hz – 15 kHz $^{+0.3}_{-2}$ dB
Selectivity:	80 dB (300 kHz)
Capture Ratio:	1.0 dB
AM Suppression Ratio:	60 dB
Image Response Ratio:	85 dB
IF Response Ratio:	95 dB
Spurious Response Ratio:	95 dB
RF Intermodulation:	78 dB (IHF) 93 dB (at 2.4 MHz)
Sub-carrier Product Ratio:	60 dB
Muting Threshold:	Approx. 25.2 dB/10 μV (LOW) Approx. 45.2 dB/100 μV (HIGH)
Output Level/Impedance:	750 mV, 4.7 kΩ
Cal Tone:	50 % modulation, 400 Hz

AM (MW and LW) TUNER SECTION

		MW	LW
Tuning Range		522–1,602kHz	155–344kHz
Antenna	Built-in	provided	provided
	External	provided	provided
Intermediate Frequency		450kHz	
Usable Sensitivity	Built-in antenna	200μV/m (1,000kHz)	450μV/m (250kHz)
	External antenna	100μV (1,000kHz)	100μV (250kHz)
S/N Ratio		55dB	55dB
Harmonic Distortion		0.5%	0.5%
Selectivity		45dB (9kHz)	45dB (9kHz)
Image Response Ratio		45dB (1,000kHz)	75dB (250kHz)

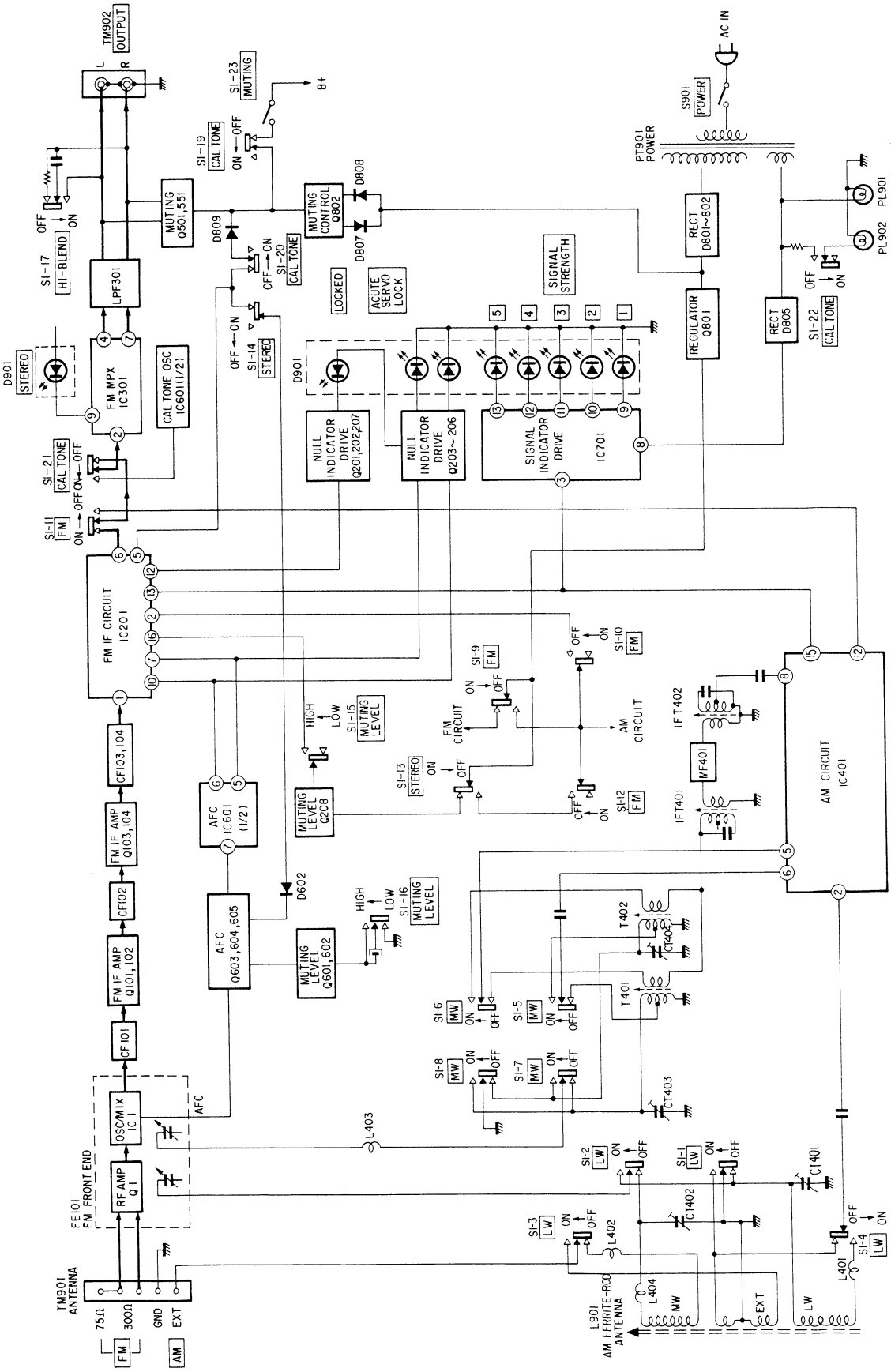
MODEL IDENTIFICATION
– Specification Label –



AEP model: 220V ~ 50/60Hz 10W
UK model: 240V ~ 50/60Hz 10W

SECTION 1
OUTLINE

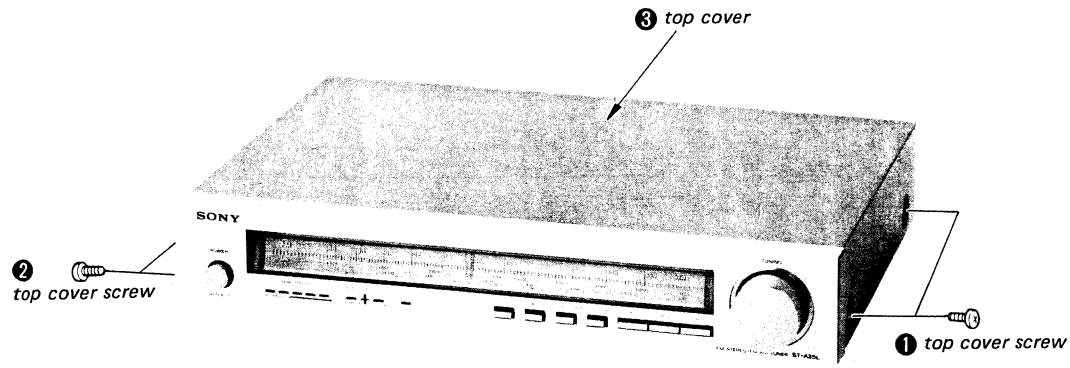
1-1. BLOCK DIAGRAM



SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

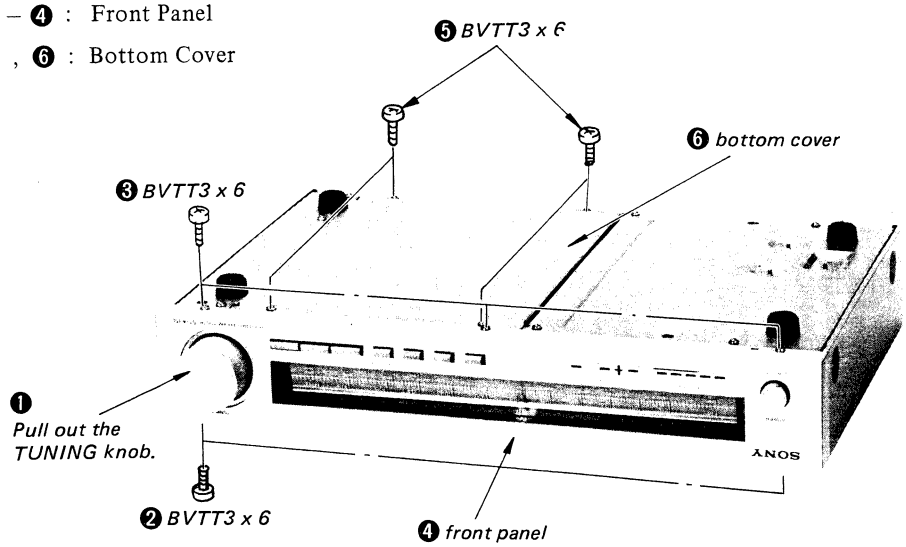
TOP COVER



DIAL CORD STRINGING
• See page 5.

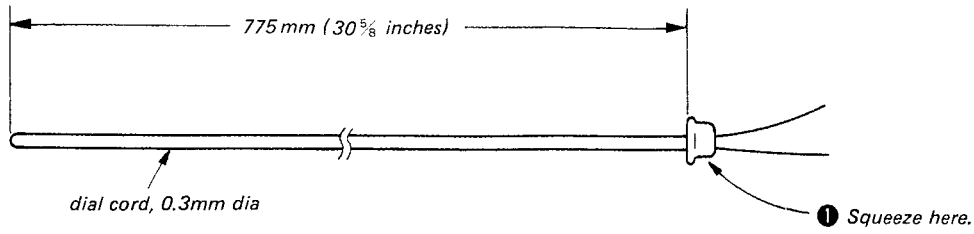
FRONT PANEL/BOTTOM COVER

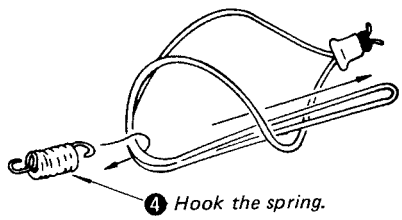
❶ – ❹ : Front Panel
❺ , ❻ : Bottom Cover

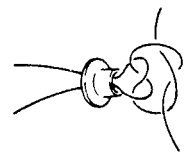


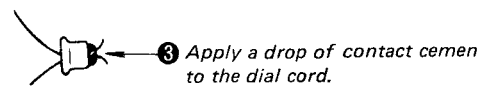
DIAL CORD STRINGING

1) Preparation



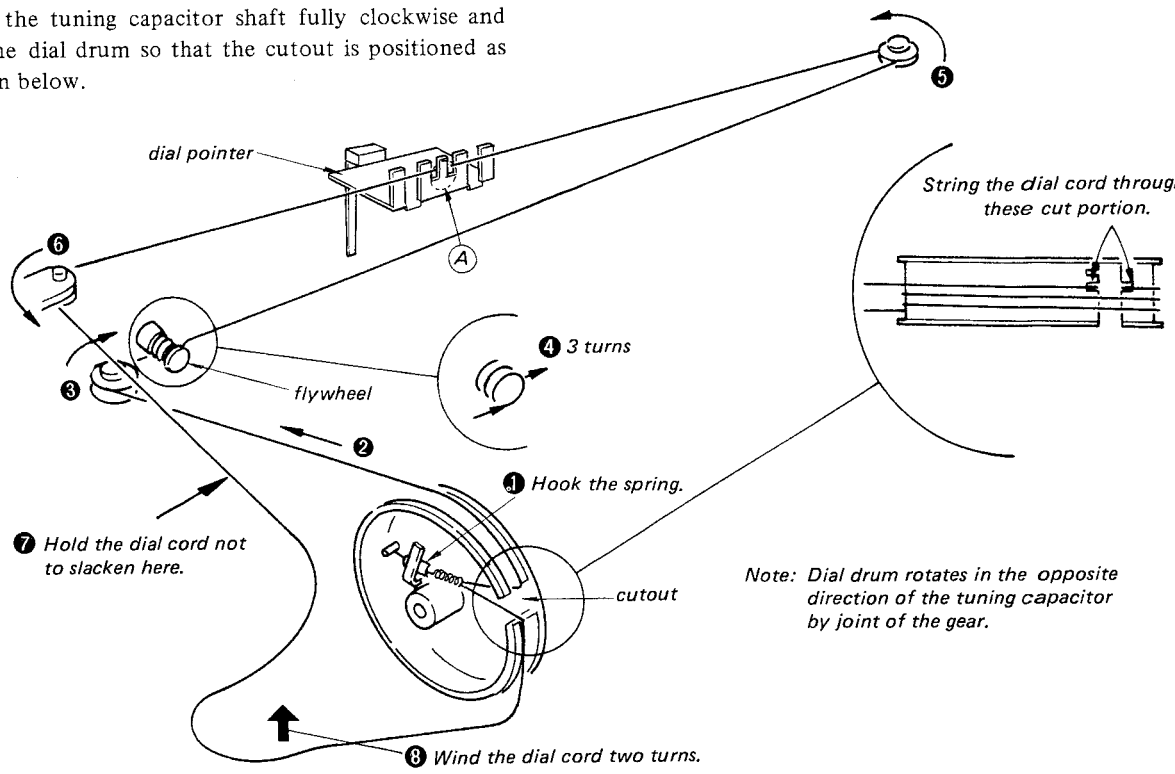






2) Stringing

Turn the tuning capacitor shaft fully clockwise and set the dial drum so that the cutout is positioned as shown below.



Note: Dial drum rotates in the opposite direction of the tuning capacitor by joint of the gear.

3) Dial Pointer Installation

1. Receive a broadcasting station signal and set the dial pointer on the dial scale.
2. Apply a drop of contact cement to the dial pointer (marked Ⓐ).

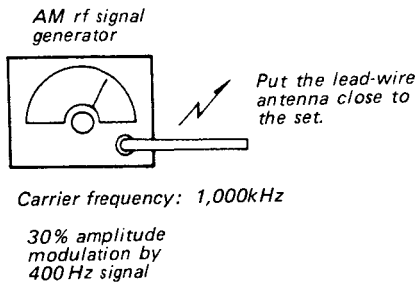
SECTION 3
ADJUSTMENTS

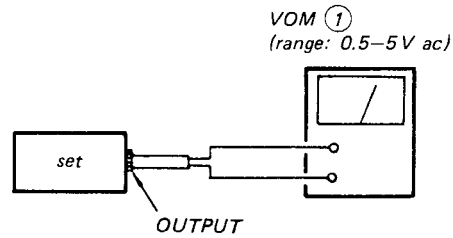
MW SECTION

Setting:

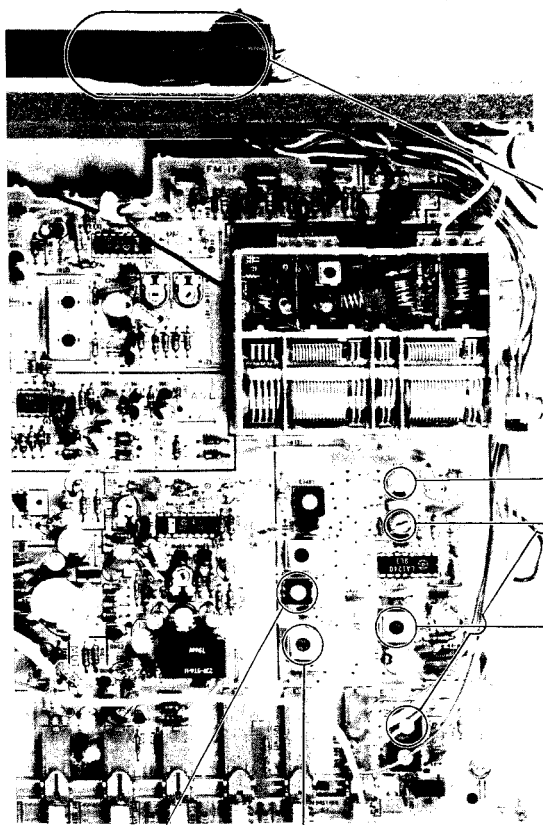
Band Selector: MW

Setup:


AM rf signal generator
Put the lead-wire antenna close to the set.
Carrier frequency: 1,000kHz
30% amplitude modulation by 400Hz signal



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



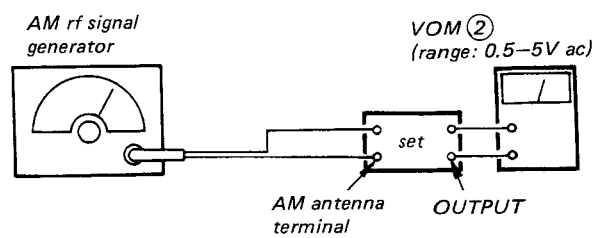
MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
L901	600kHz
CT402	1,400kHz

IFT401
IFT402
IFT403

CT404	T402
1,660kHz	515kHz
Adjust for a maximum reading on VOM ①.	
MW FREQUENCY COVERAGE ADJUSTMENT	

AM IF Alignment

Procedure:



Carrier frequency: 1,000kHz
30% amplitude modulation
by 400Hz signal
Output level: as low as possible

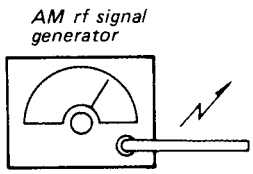
1. Tune the set to 1,000kHz and adjust IFT401–403 for a maximum reading on VOM ②.
2. Repeat the procedure in adjustment several times.

LW SECTION

Setting:

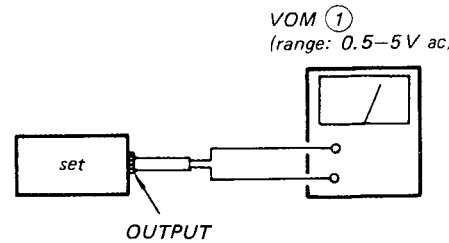
Band Selector: LW

Setup:

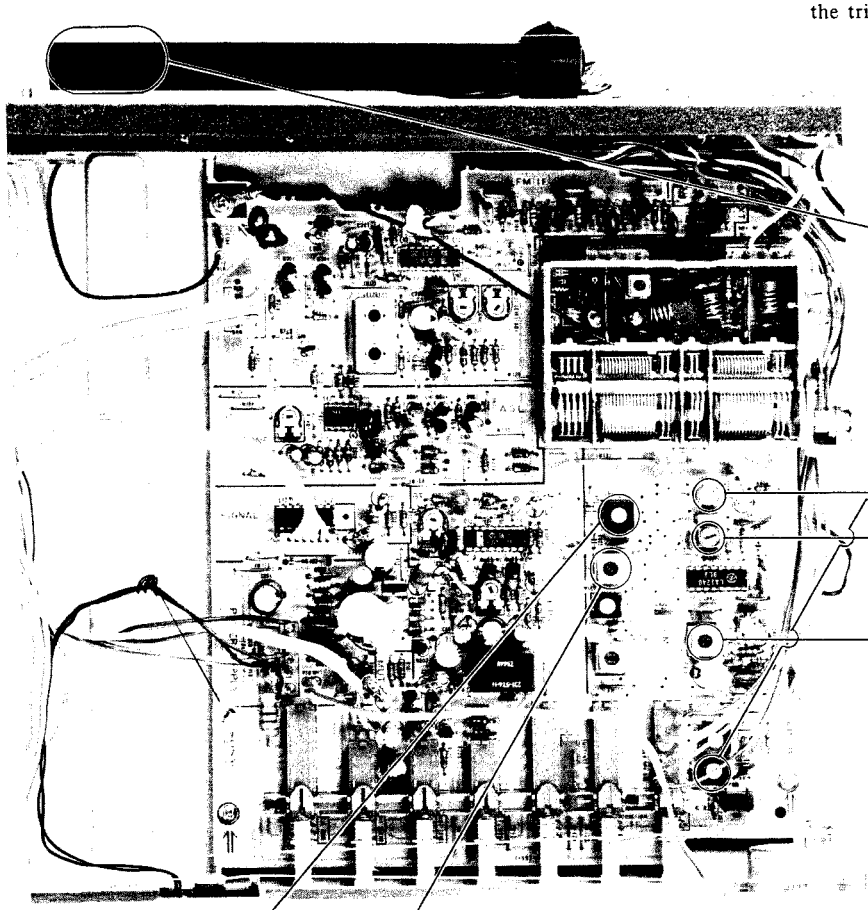


Carrier frequency: 250kHz

30% amplitude modulation by 400 Hz signal



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM (1).	
L901	145kHz
CT401	365kHz

IFT401
IFT402
IFT403

AM IF Alignment

- **See page 6.**

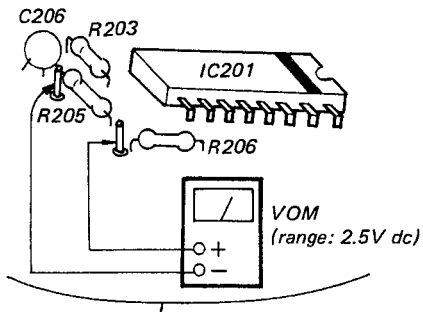
CT403	T401
365kHz	145kHz
Adjust for a maximum reading on VOM (1).	
LW FREQUENCY COVERAGE ADJUSTMENT	

FM SECTION

Setting:

Band Selector: FM

FM Discriminator Alignment 1



Setting:

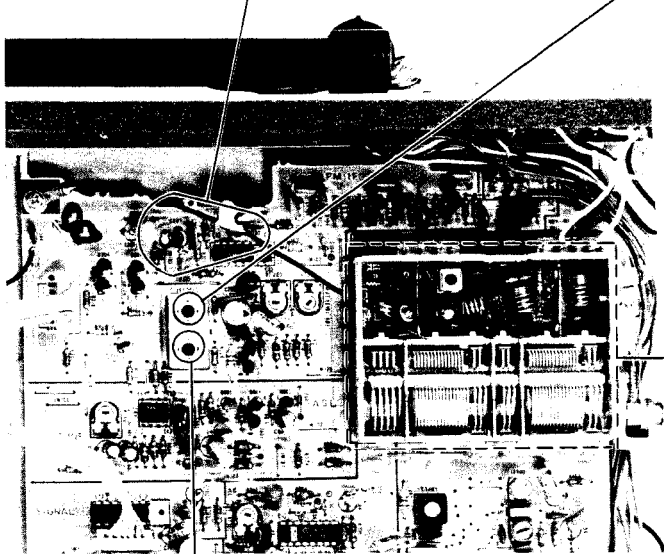
STEREO switch: OFF

Procedure:

1. Detune the set.
2. Adjust the orange core (primary-side) of IFT201 for 0V reading on VOM.

Note: When replacing the ceramic filter (CF101–104), perform this alignment.
Repeat the secondary-side and primary-side adjustments several times.

IFT201
(primary side: orange)



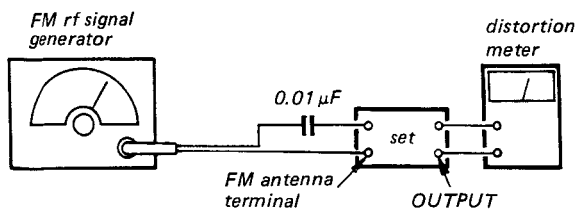
The FM front-end is carefully adjusted at the factory and is supplied as one whole block for replacement.

IFT201
(secondary side: black)

FM Discriminator Alignment 2

Setting:

STEREO switch: OFF



Carrier frequency: *98MHz*
Output level: *1mV (60dB)*
Modulation: *400Hz, 40kHz deviation (100%)*

Procedure:

Adjust the black core (secondary side) of IFT201 for minimum distortion.

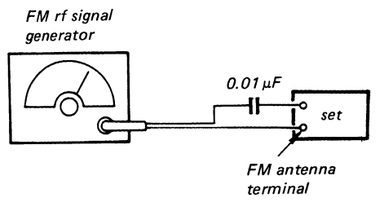
VCO Adjustment

A) Regular Method

Setting:

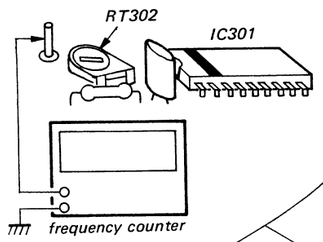
STEREO switch: OFF

Procedure:



Carrier frequency: 98MHz
Modulation: 400Hz, 40kHz deviation (100%)
Output level: 1mV (60dB)

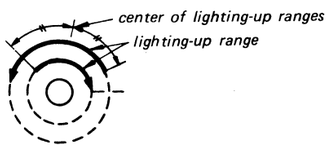
1. Tune the set to 98MHz
2. Adjust RT302 for 76kHz ± 100Hz on the counter.



B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT302 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RT302 at the center of the lighting-up range of both turns as shown below.

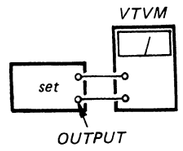


CAL TONE Level Adjustment

Setting:

CAL TONE switch: ON

Procedure:



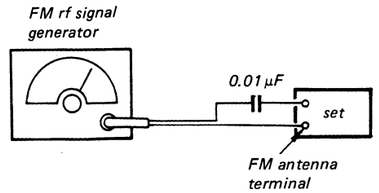
Adjust RT601 for 0.35–0.44V (–6 ±1dB) reading on the VTVM.

Signal Indicator Level Adjustment

Setting:

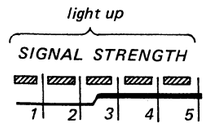
STEREO switch: OFF

Procedure:



Carrier frequency: 98MHz
Modulation: 400Hz, 40kHz deviation (100%)
Output level: 316µV (50dB)

Tune the set to 98MHz and adjust RT202 so that all signal elements light up. (See figure below.)

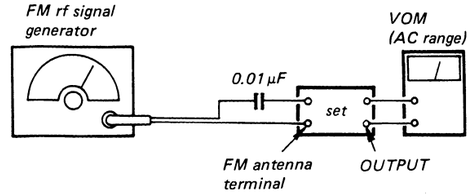


FM Muting Level Adjustment

Setting:

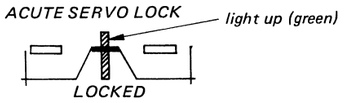
STEREO switch: ON (muting ON)

Procedure:



Carrier frequency: 98MHz
Modulation: 400Hz, 40kHz deviation (100%)
Output level: 7.9µV (18dB)

1. Tune the set to 98MHz.
2. Turn RT201 and stop it just when the VOM indication suddenly decreases.
3. Receive a signal stronger than the muting level. Confirm that the ACUTE SERVO LOCK lamp (green) lights up. (See figure below.)

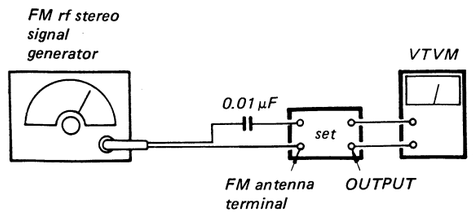


FM Stereo Separation Adjustment

Setting:

STEREO switch: ON (muting ON)

Procedure:



Carrier frequency: 98MHz
Output level: 1mV (60dB)
Modulation:
Audio (400Hz): 16.25kHz deviation (45%)
Pilot (19kHz): 7.5kHz deviation (10%)
Sub-channel: 16.25kHz deviation (45%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT301 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT301 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

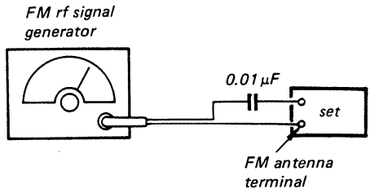
ing on

Signal Indicator Level Adjustment

Setting:

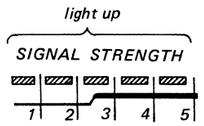
STEREO switch: OFF

Procedure:



Carrier frequency: 98MHz
Modulation: 400Hz, 40kHz deviation (100%)
Output level: 316μV (50dB)

Tune the set to 98MHz and adjust RT202 so that all signal elements light up. (See figure below.)



RT202

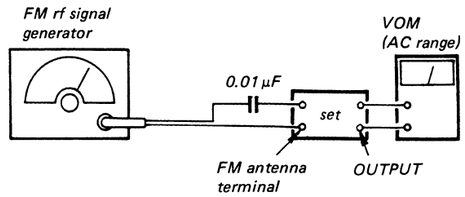
RT201

FM Muting Level Adjustment

Setting:

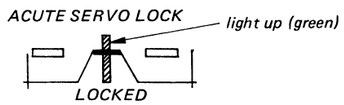
STEREO switch: ON (muting ON)

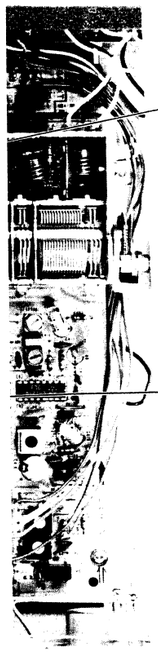
Procedure:



Carrier frequency: 98MHz
Modulation: 400Hz, 40kHz deviation (100%)
Output level: 7.9μV (18dB)

1. Tune the set to 98MHz.
2. Turn RT201 and stop it just when the VOM indication suddenly decreases.
3. Receive a signal stronger than the muting level. Confirm that the ACUTE SERVO LOCK lamp (green) lights up. (See figure below.)





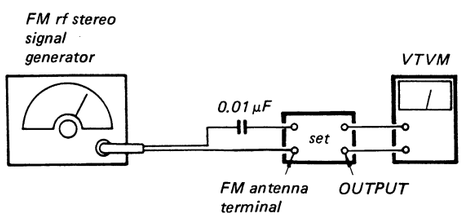
RT301

FM Stereo Separation Adjustment

Setting:

STEREO switch: ON (muting ON)

Procedure:



Carrier frequency: 98MHz
Output level: 1mV (60dB)
Modulation:
Audio (400Hz): 16.25kHz deviation (45%)
Pilot (19kHz): 7.5kHz deviation (10%)
Sub-channel: 16.25kHz deviation (45%)

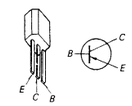
FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT301 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT301 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The separations of both channels should be equal.

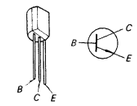
- **Semiconductors**

2SA1026
2SA1027R

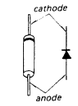


μPC4558C

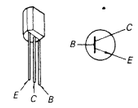
2SC710
2SC710-15



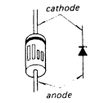
1S188AM
1T22AM
1S1555
10E2
HZ15-1L
1N4002
1N4148



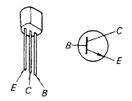
2SC945



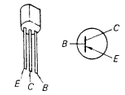
EQB01-15



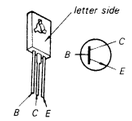
2SC1364
2SC930



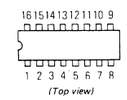
2SA733



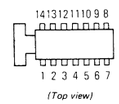
2SD809



HA11225
HA12016
LA1240



LB1416

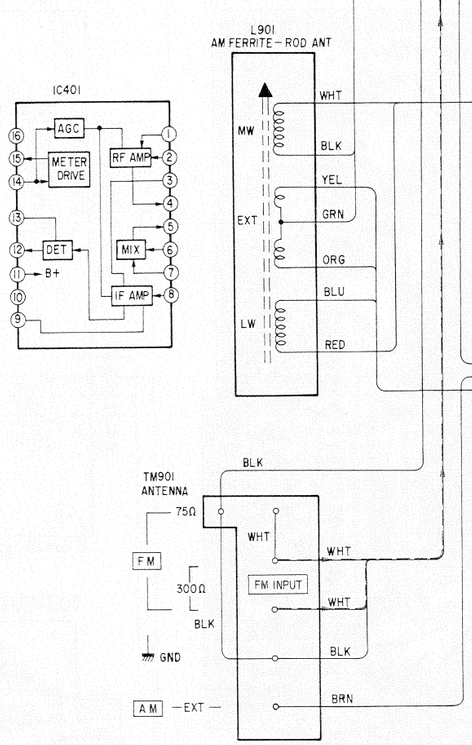


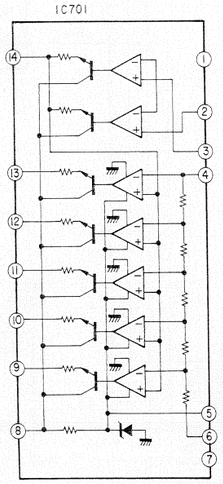
4-1. MOUNTING DIAGRAM

– Conductor Side –

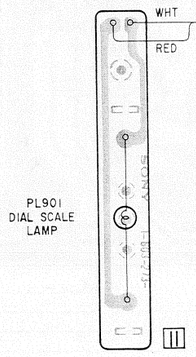
D	Q , IC
	IC401
	101
	102
	103
	IC301
	104
602	
	603
	IC201
	208 602 604
601	202 201
	802 605
808 807	551 501 601
	801
809	
801 802	203 204
803 804	IC601
806	207
	IC701
	205 206
805	

- [⊣⊢] : indicates side identified with part number.
- ▒▒ : B+ pattern
- ⟹ : signal path
- ⟹ : L-CH signal path
- ⟹ : R-CH signal path

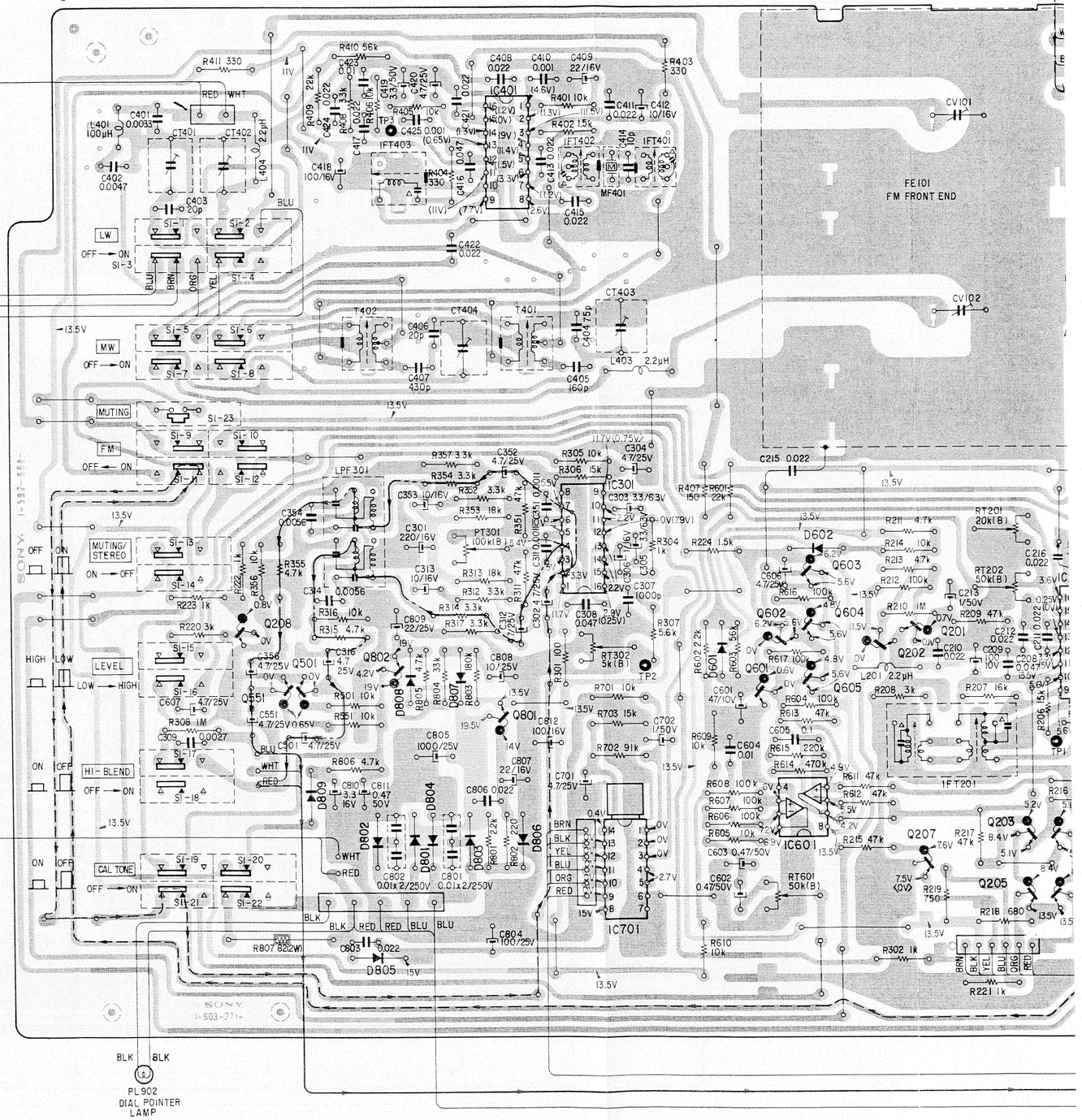




【LAMP BOARD】



【TUNER BOARD】



C D E F G H I J

1 2 3 4 5

【TUNER BOARD】

FE101 FM FRONT END

IC301 IC401 IC601 IC701

Q101 Q102 Q103 Q104 Q201 Q203 Q204 Q205 Q206 Q207 Q208 Q501 Q551 Q601 Q602 Q603 Q604 Q605 Q801 Q802

D602 D801 D802 D803 D804 D805 D806 D809

IFT401 IFT402 IFT403 IFT201

MF401

CT401 CT402 CT403 CT404

T401 T402

L401 L402 L403 L404

LPF301

PT301 RT201 RT202 RT301 RT302 RT601

CV101 CV102

TP1 TP2 TP3

SI-1 SI-2 SI-3 SI-4 SI-5 SI-6 SI-7 SI-8 SI-9 SI-10 SI-11 SI-12 SI-13 SI-14 SI-15 SI-16 SI-17 SI-18 SI-19 SI-20 SI-21 SI-22 SI-23

LW MW FM MUTING MUTING/STEREO LEVEL HI-BLEND CAL TONE

WHT ANT BLK GND WHT ANT BLK CHASSIS

BLU BLK GRN

RED ORG BLU YEL BRN BLK

PL902 DIAL POINTER LAMP

【AMP BOARD】

D901

SIGNAL STRENGTH

ACUTE SERVO LOCK

STEREO

THE SURFACE SIDE

【OUTPUT BOARD】

R-CH OUTPUT

TM902 OUTPUT

L-CH OUTPUT

IC301

LAMP SWITCH
LAMP DRIVE
PHASE COMPA-RATOR
DC AMP
DEMODULATOR
STEREO/MONAURAL SWITCH
DIVIDER 3
DIVIDER 2
DIVIDER
PHASE COMPA-RATOR
PRE AMP
VCO 76 kHz
REG
DC AMP
VOLTAGE DET

CF101~104

IC201

LEVEL MUTE DRIVE
LEVEL DET
1st. IF AMP
METER DRIVE
LEVEL DET
2nd. IF AMP
LEVEL DET
3rd. IF AMP
AUDIO MUTE CONTROL AMP
OR CIRCUIT
LEVEL DET
AUDIO AMP
OV SW
QUADRATURE DET
AFC AMP

S901 POWER ON OFF

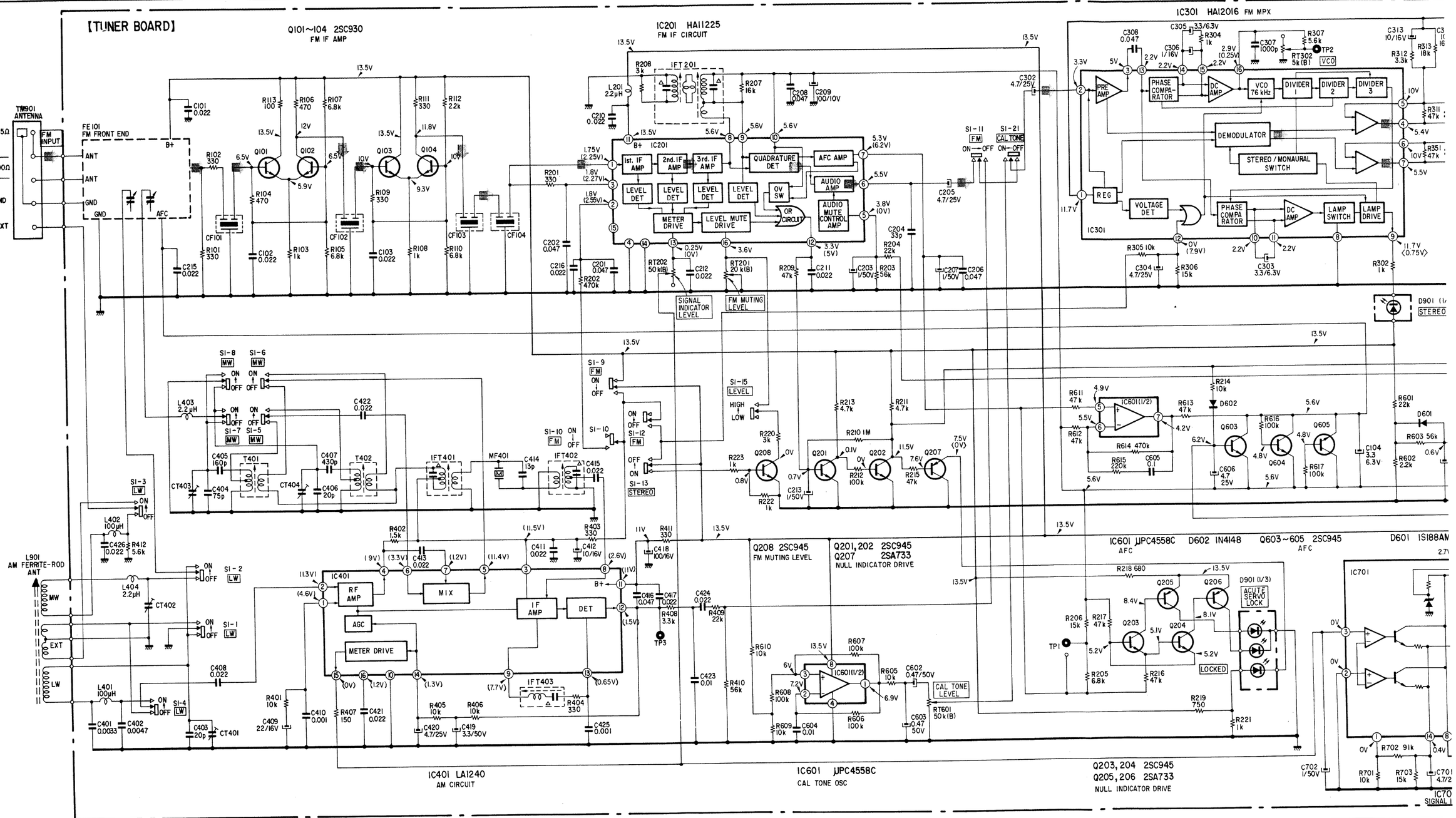
C901 0.01/250V

PT901 POWER

AEP 220V
UK 240V
CNP901 AC IN 220/240V 50/60Hz

【VOLTAGE SELECTOR BOARD】

4-2. SCHEMATIC DIAGRAM



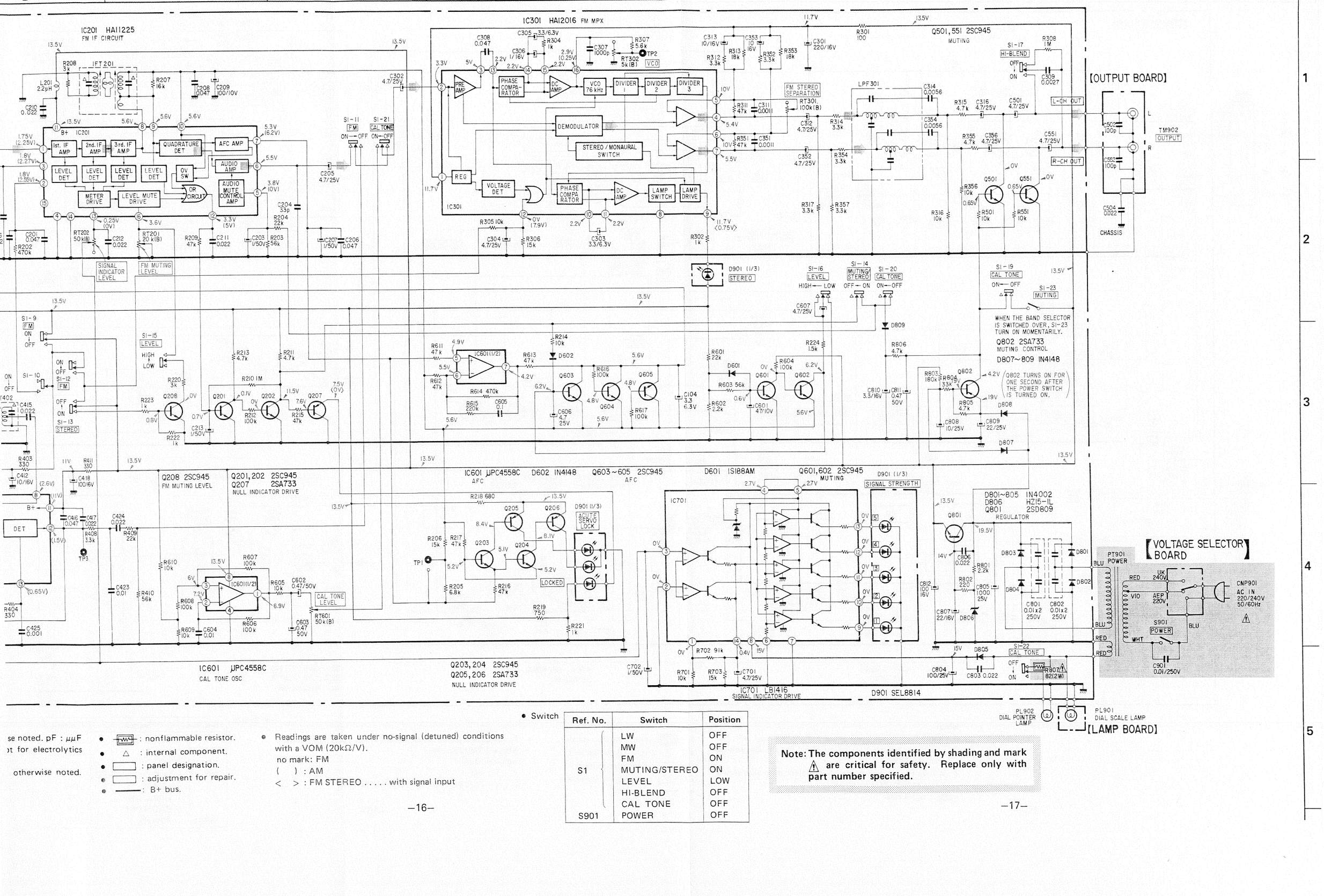
Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ➡ : signal path
- ⊸▭⊸ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
  no mark: FM
  ( ) : AM
  < > : FM STEREO . . . . . with signal input

- Switch

Ref. No.	Switch	Position
S1	LW	OFF
	MW	OFF
	FM	ON
	MUTING/STEREO	ON
	LEVEL	LOW
	HI-BLEND	OFF
	CAL TONE	OFF
S901	POWER	OFF

ST-A35L



se noted. pF : μμF
ot for electrolytics

otherwise noted.

- ▭ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.

- Readings are taken under no-signal (detuned) conditions with a VOM (20kΩ/V).
  no mark: FM
  ( ) : AM
  < > : FM STEREO . . . . . with signal input

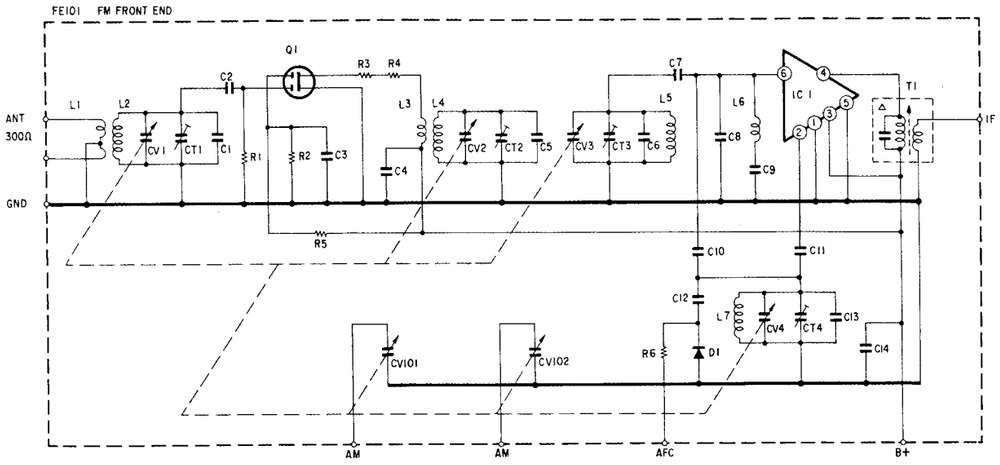
• Switch

Ref. No.	Switch	Position
S1	LW	OFF
	MW	OFF
	FM	ON
	MUTING/STEREO	ON
	LEVEL	LOW
	HI-BLEND	OFF
	CAL TONE	OFF
S901	POWER	OFF

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

4-3. SCHEMATIC DIAGRAM

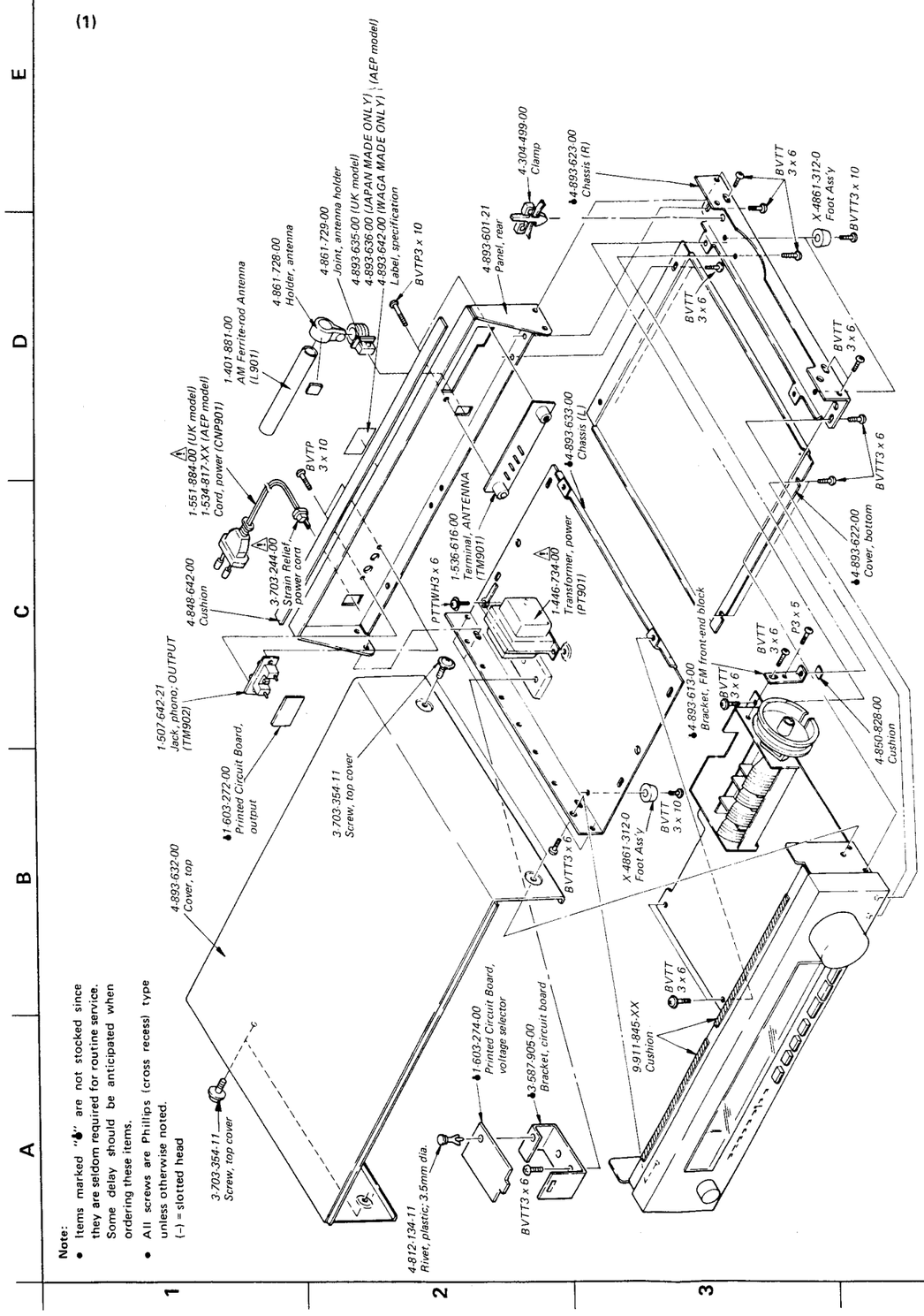
– FM Front-end Section –



1/4 WATT CARBON RESISTORS

Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.	Ω	Part No.
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

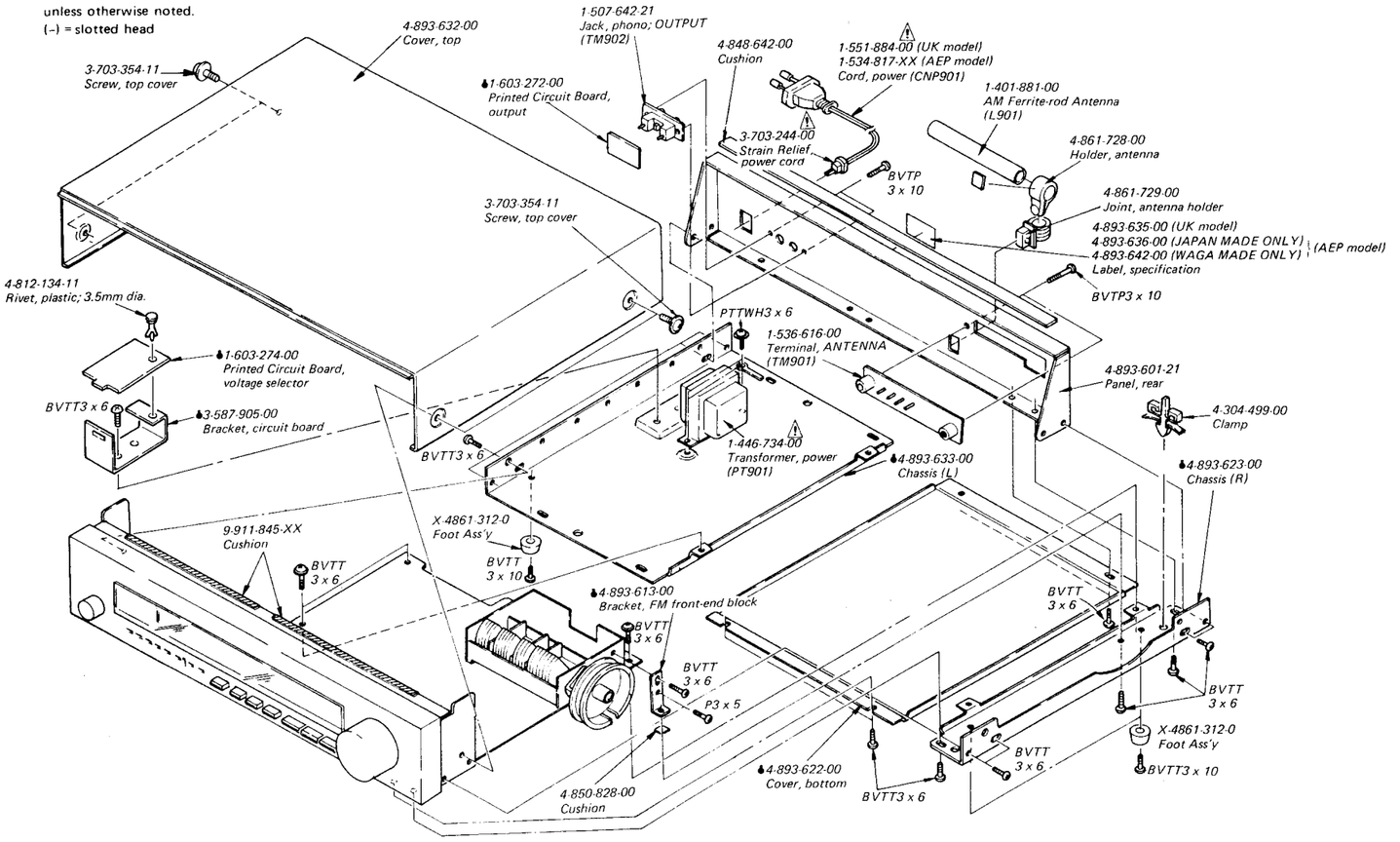
SECTION 5
EXPLODED VIEWS



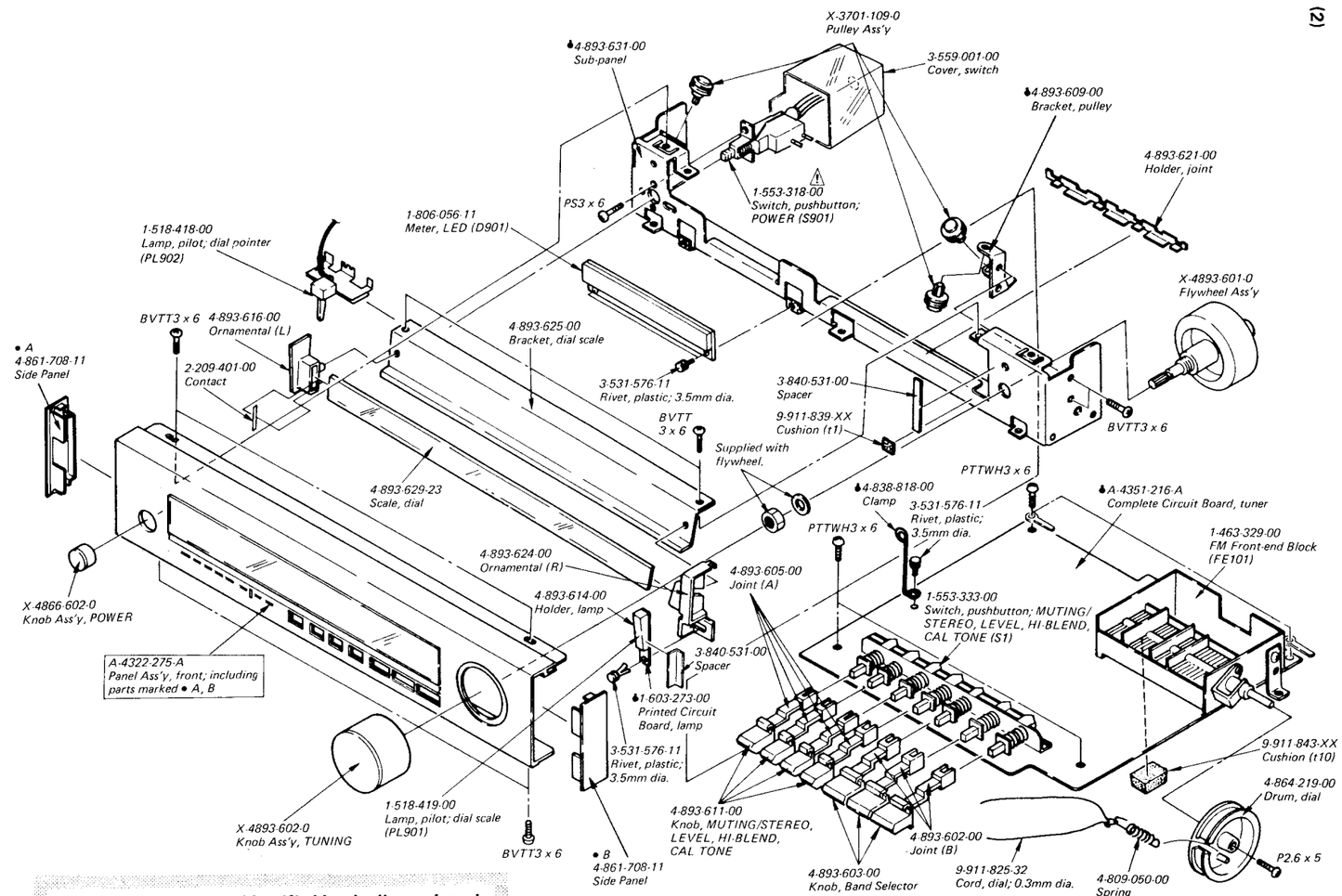
Note:
- Items marked "•" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
(–) = slotted head

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
(–) = slotted head



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 6
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description

SEMICONDUCTORS

Transistors

Q101–104	8-729-803-04	2SC930
Q201–204	8-729-663-47	2SC1364
Q205–207	8-729-612-77	2SA1027R
Q208	8-729-663-47	2SC1364
Q501, 551 Q601–605	8-729-663-47	2SC1364
Q801	8-729-984-70	2SD809
Q802	8-729-612-77	2SA1027R

ICs

IC201	1-806-066-11	HA11225
IC301	8-759-320-16	HA12016
IC401	8-759-812-40	LA1240
IC601	8-759-145-58	μPC4558C
IC701	8-759-814-16	LB1416

Diodes

D601	8-719-422-21	1T22AM
D602	8-719-815-55	1S1555
D801–805	8-719-200-02	10E2
D806	8-719-931-15	EQB01-15
D807–809	8-719-815-55	1S1555
D901	1-806-056-11	SEL88-14

CAPACITORS

All capacitors are in μF. Common capacitors are omitted. Refer to the lists on pages 23 and 24 for theri part numbers.

C801, 802	1-102-394-00	0.01+0.01	250V	ceramic
C901	⚠1-130-455-00	0.01	250V	film
CT401–403	1-141-147-XX	Trimmer		
CT404	1-141-179-12	Trimmer		

• Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Ref. No.	Part No.	Description

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on page 18 for their part numbers.

R807	⚠1-206-485-00	82	2W	metal oxide (nonflammable)
RT201	1-226-237-00	20k-B, adjustable; FM muting level		
RT202	1-226-238-00	50k-B, adjustable; Signal Indicator level		
RT301	1-226-239-00	100k-B, adjustable; FM Stereo Separation		
RT302	1-226-235-00	5k-B, adjustable; VCO		
RT601	1-226-238-00	50k-B, adjustable; CAL TONE level		

MISCELLANEOUS

CF101–104	1-527-344-91	Filter, ceramic
CNP901	⚠1-534-817-XX	Cord, power (AEP model)
	⚠1-551-884-00	Cord, power (UK model)
FE101	1-463-329-00	FM Front-end Block
IFT201	1-404-275-00	FM Discriminator
IFT401	1-409-323-00	AM IFT
IFT402	1-409-324-00	AM IFT
IFT403	1-404-220-00	AM detector
L201	1-408-109-00	2.2μH, microinductor
♦L401, 402	1-407-750-00	100μH, microinductor
L403, 404	1-408-109-00	2.2μH, microinductor
L901	1-401-881-00	Antenna, AM ferrite-rod
LPF301	1-231-574-00	Filter, low-pass
MF401	1-527-538-00	Filter, mechanical; AM
PL901	1-518-419-00	Lamp, pilot; dial scale
PL902	1-518-418-00	Lamp, pilot; dial pointer
PT901	⚠1-446-734-00	Transformer, power
S1	1-553-333-00	Switch, pushbutton; Band Selector, HI-BLEND, CAL TONE, LEVEL, MUTING/STEREO
S901	⚠1-553-318-00	Switch, pushbutton; POWER
T401	1-405-910-00	Coil, LW OSC
T402	1-405-857-00	Coil, MW OSC
TM901	1-536-616-00	Terminal, ANTENNA
TM902	1-507-642-21	Jack, phono; 2P; OUTPUT
	♦1-561-442-00	Socket, 6P

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Part No.	*Description*

COMPLETE CIRCUIT BOARD

♦ A-4351-216-A	Tuner

PRINTED CIRCUIT BOARDS

♦ 1-603-272-00	Output
♦ 1-603-273-00	Lamp
♦ 1-603-274-00	Voltage Selector

ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
1-501-161-00	Antenna, ribbon
1-551-918-00	Cord, connection
3-701-630-00	Bag, plastic
3-783-192-11	Manual, instruction
4-863-543-00	Cushion
4-866-723-00	Sheet
4-893-637-00	Carton (UK model)
4-893-638-00	Carton (KOREA MADE ONLY) (AEP model)
4-893-645-00	Carton (WEGA MADE ONLY) (AEP model)

ELECTROLYTIC CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one.					
	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

CAP. (pF)	RATING							
	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (μF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001μF = 1,000pF

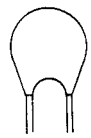
CERAMIC (SEMICONDUCTOR) CAPACITORS

CAP. (μF)	RATING → : Use the high voltage rated one.				
	25 VOLT.	50 VOLT.	CAP. (μF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

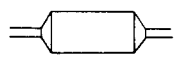
RATING											
CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

TANTALUM CAPACITORS



RATING → : Use the high voltage rated one.							
CAP. (μF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			

TANTALUM CAPACITORS



RATING						
CAP. (μF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

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